

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.



DAE 1752 \$13

Pratitioner's Dock # N . 50533

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

☒ In re application of: Barclay et al.

Application No.: 09 / 778,365

Group No. 1752

Filed: February 7, 2001

Examiner: Not Yet Assigned

For: HIGH RESOLUTION PHOTORESIST COMPOSITIONS

☐ Patent No.:

Issue date:

*NOTE: Insert name of inventor(s) and title also for patent. Where notification is with respect to a maintenance fee payment, also insert application number and filing date, and add Box M. Fee to address.

Assistant Commissioner for Patents
Washington, D.C. 20231

PETITION TO ACCORD CORRESPONDENCE FILING DATE SHOWN
ON EXPRESS MAIL LABEL "DATE-IN"
(37 C.F.R. 1.10(c))

RECEIVED

SEP 07 2001

1. This is a petition to accord the correspondence in the above-identified

☒ application

☐ patent

OFFICE OF PETITIONS
DEPUTY A/C PATENTS

the "date-in" of 02/07/01 shown on the Express Mail label No. EL770089445US

It is respectfully contended that the date of 02/08/01 accorded this correspondence by the PTO is correct.

2. Submitted herewith is the statement of Deanna M. Rivernider as to when the discrepancy was discovered and establishing that this petition is being filed promptly thereafter. 37 C.F.R. 1.10(c)(1).

3. Attached is a true copy of the first page of the correspondence which was filed, showing both the date on which this correspondence was mailed as Express Mail Label No. EL770089445US and that the number of the Express Mail was placed thereon prior to mailing. 37 C.F.R. 1.10(c)(2).

4. Attached is true copy of the "Express Mail" mailing label showing the "date-in" of unable to locate. 37 C.F.R. 1.10(c)(3). *Copy of Confirmation from the U.S. Postal Service is enclosed.

NOTE: See 37 C.F.R. 1.10(d)(3).

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

FACSIMILE

☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

☐ transmitted by facsimile to the Patent and Trademark Office.

Date: 8/28/01

Signature

Deanna M. Rivernider

(type or print name of person certifying)

(Petition to Accord Correspondence Filing Date Shown on Express Mail Label "Date-in"—[8-13]—page 1 of 2)

09/06/2001 SLUANG1 00000028 09778365

01 FC:122

130.00-0P

5. ☐ Other

6. The petition fee (37 C.F.R. 1.17(h)) is paid as follows:

☒ Enclosed please find a check payable to the "Commissioner of Patents" for the sum of \$130.00

☐ Please charge Account No. _____ the sum of . . . \$130.00

A duplicate of this petition is enclosed.

☒ Please charge Account No. 04-1105 for any fee deficiency or credit this account for any overpayment for this petition.



Signature of Practitioner

Date:

Peter F. Corless

(type or print name of practitioner)

EDWARDS & ANGELL, LLP

Reg. No: 33,860

Dike, Bronstein, Roberts & Cushman, IP Group

P.O. Address

P.O. Box 9169

Tel. No.: (617) 523-3400

Boston, MA 02209

Customer No.:

PATENT

Practitioner's Docket No. 50533

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

RECEIVED

SEP 07 2001

NEW APPLICATION TRANSMITTAL

OFFICE OF PETITIONS
DEPUTY A/C PATENTS

Transmitted herewith for filing is the patent application of

Inventor(s): George G. BARCLAY, Robert G. HEUMANN, Edward W. RUTTER, Jr.,
Jung-Kuang R. CHEN, Margaret C. LAWSON, George M. JORDHAMO,
Timothy M. HUGHES, Wayne M. MOREAU and Ann Marie MEWHERTER

WARNING: 37 CFR 1.41(a)(1) points out:

"(a) A patent is applied for in the name or names of the actual inventor or inventors.

(1) The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.63, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name or names of the inventor or inventors."

For (title): **HIGH RESOLUTION PHOTORESIST COMPOSITIONS**

CERTIFICATION UNDER 37 C.F.R. 1.10*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this correspondence and the documents referred to as attached therein are being deposited with the United States Postal Service on this date February 7, 2001, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number EL770089445US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Deanna M. Rivernider

(type or print name of person mailing paper)

Deanna M. Rivernider

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

*WARNING: Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. 1.10(b).
"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.



PROVISIONAL PATENT APPLICATION

Docket No. 50533

Express Mail Label No. EL770089445US

HIGH RESOLUTION PHOTORESIST COMPOSITIONS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to photoresist compositions and methods for preparation of same and, more particularly, to preparative methods that produce high resolution resists.

2. Background

Photoresists are photosensitive films for transfer of images to a substrate and form negative or positive images. After coating a photoresist on a substrate, the coating is exposed through a patterned photomask to a source of activating energy such as ultraviolet light to form a latent image in the photoresist coating. The photomask has areas opaque and transparent to activating radiation that define a desired image to be transferred to the underlying substrate. A relief image is provided by development of the latent image pattern in the resist coating. The use of photoresists is generally described, for example, by Deforest, Photoresist Materials and Processes, McGraw Hill Book Company, New York (1975), and by Moreau, Semiconductor Lithography, Principals, Practices and Materials, Plenum Press, New York (1988).

While currently available photoresists are suitable for many applications, current resists also can exhibit significant shortcomings, particularly in high performance applications such as e.g. formation of highly resolved sub-half micron and sub-quarter micron features.

More recently, chemically-amplified-type resists have been increasingly employed. Such photoresists may be negative-acting or positive-acting and generally



Docket No. 50533

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Barclay et al.

SERIAL NO.: 09/778,365

FILED: February 7, 2001

FOR: HIGH RESOLUTION PHOTORESIST COMPOSITIONS

Assistant Commissioner for Patents
Washington, D.C. 20231

RECEIVED

SEP 07 2001

OFFICE OF PETITIONS
DEPUTY A/C PATENTS

Dear Sir:

DECLARATION IN SUPPORT OF PETITION UNDER 37 CFR 1.10(c)

I, Deanna Rivernider, declare as follows:

1. I am employed as a legal assistant to attorney Peter Corless of the law firm Edwards & Angell, LLP. I work out of Edwards and Angell's satellite office in Marlborough, Massachusetts.

2. While preparing a response to Notice to File Missing Parts on August 28, 2001 for the subject application, I noticed that the filing date of February 8, 2001 on the U.S. Patent Office Filing Receipt appeared to be incorrect. A copy of the Filing Receipt is attached hereto.

3. Immediately, upon discovering the discrepancy, I called the automated U.S. Express Mail status line and received information by telephone and facsimile indicating the package was delivered to M. Anderson in Washington D.C. 20231 on February 8, 2001 at 10:52 a.m. Therefore, the application should have been assigned the filing date of February 7, 2001 based on the date of deposit. A copy of the confirmation letter faxed from the United States Postal Service on August 28, 2001 is attached hereto.

4. I discovered the discrepancy on August 28, 2001, and in consideration of the filing date of this petition, I believe this petition is being filed promptly thereafter.

5. I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

8/28/01
Date

Deanna M. Rivernider
Deanna M. Rivernider



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/778,365	02/08/2001	1752	782	50533		24	2

CONFIRMATION NO. 6843

FILING RECEIPT



OC000000005923691

EDWARDS & ANGELL, LLP
Dike, Bronstein, Roberts & Cushman, IP Group
130 Water Street
Boston, MA 02109

Date Mailed: 04/02/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

George G. Barclay, Residence Not Provided;
Robert G. Heumann, Residence Not Provided;
Edward W. Rutter JR., Residence Not Provided;
Jung-Kuang R. Chen, Residence Not Provided;
Margaret C. Lawson, Residence Not Provided;
George M. Jordhamo, Residence Not Provided;
Timothy M. Hughes, Residence Not Provided;
Wayne M. Moreau, Residence Not Provided;
Ann Marie Mewherter, Residence Not Provided;

Assignment For Published Patent Application

Shipley Company, L.L.C., Marlborough, MA;

Continuing Data as Claimed by Applicant

THIS APPLN CLAIMS BENEFIT OF 60/180,905 02/07/2000

Foreign Applications

I. P. S.
DIKE, BRONSTEIN, ROBERTS & CUSHMAN
130 Water St. Boston, MA 02106
Date Rec'd 4/6/01
Docketed For May 7, 2001
By KRD
Approved _____

If Required, Foreign Filing License Granted 03/30/2001

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

Title

High resolution photoresist compositions

Preliminary Class

430

Data entry by : SARWARI, HOMA

Team : OIPE

Date: 04/02/2001





**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 36 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15 (b).

PLEASE NOTE the following information about the Filing Receipt:

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 600 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:



Assistant Commissioner for Patents
Office of Initial Patent Examination
Customer Service Center
Washington, DC 20231



UNITED STATES
POSTAL SERVICE™


Date: 08/28/2001

Fax Transmission To: Postal Customer
Fax Number: 508-485-0363

Dear Postal Customer:

The following is in response to your 08/28/2001 request for delivery information on your Express Mail item number EL770089445US. The delivery record shows that this item was delivered on 02/08/2001 at 10:52 AM in WASHINGTON, DC 20231 to M ANDERSON. The scanned image of the recipient information is provided below.

Signature of Recipient: Delivery Section


M ANDERSON

Address of Recipient: Patents 20231

Thank you for selecting the Postal Service for your mailing needs. If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,

United States Postal Service

UNITED STATES PATENT & TRADEMARK OFFICE
Washington, D.C. 20231

REQUEST FOR PATENT FEE REFUND				
1 Date of Request: <u>1-14-02</u>		2 Serial/Patent #: <u>09/172,365</u>		
3 Please refund the following fee(s):		4 PAPER NUMBER	5 DATE FILED	6 AMOUNT
<input type="checkbox"/>	Filing			\$
<input type="checkbox"/>	Amendment			\$
<input type="checkbox"/>	Extension of Time			\$
<input type="checkbox"/>	Notice of Appeal/Appeal			\$
<input checked="" type="checkbox"/>	Petition	<u>5</u>	<u>1/3/02</u>	<u>\$ 130.00</u>
<input type="checkbox"/>	Issue			\$
<input type="checkbox"/>	Cert of Correction/Terminal Disc.			\$
<input type="checkbox"/>	Maintenance			\$
<input type="checkbox"/>	Assignment			\$
<input type="checkbox"/>	Other			\$
		7 TOTAL AMOUNT OF REFUND		<u>\$ 130.00</u>
10 REASON:		8 TO BE REFUNDED BY:		
<input type="checkbox"/>	Overpayment	<input type="checkbox"/> Treasury Check		
<input type="checkbox"/>	Duplicate Payment	<input checked="" type="checkbox"/> Credit Deposit A/C #:		
<input checked="" type="checkbox"/>	No Fee Due (Explanation):	9 <u>04--1105</u>		
<u>unnecessary</u>				
11 REFUND REQUESTED BY:				
TYPED/PRINTED NAME: <u>WAR LAYMAN</u>		TITLE: <u>paralegal</u>		
SIGNATURE: <u>War Layman</u>		PHONE: _____		
OFFICE: _____				
***** THIS SPACE RESERVED FOR FINANCE USE ONLY: *****				
APPROVED: <u>Ashley Kelly</u>		DATE: <u>1-16-02</u>		

Instructions for completion of this form appear on the back. After completion, attach white and yellow copies to the official file and mail or hand-carry to:

Office of Finance
Refund Branch
Crystal Park One, Room 802B